

PCG-EGN Protein Descriptions			
Protein Sample	Description	Principal Investigator	Increments
Bence Jones Protein	This protein is produced by patients ho have myeloma (a lymphatic cancer).	Alexander McPherson, University of California-Irvine, Irvine, CA	0, 1, 2
Canavalin mutants A293G, G924A, R301E	Canavalin is a seed storage protein found in legumes.	Alexander McPherson, University of California-Irvine, Irvine, CA Joseph Ng, University of Alabama-Huntsville, Huntsville, AL	0, 1, 4
Carnitine acetyl transferase	An enzyme that transfers short chain fatty acids from Carnitine molecules to Coenzyme A molecules.	Joseph Ng, University of Alabama-Huntsville, Huntsville, AL	0
Catalase	A detoxifying enzyme whose function is to catalyze the breakdown of peroxide into oxygen and water in animals.	Alexander McPherson, University of California-Irvine, Irvine, CA	0, 1, 2, 4
Concanavalin B	A plant seed protein derived from the Jack Bean. It is a defensive enzyme used to discourage attack from insects with chitin exoskeletons.	Alexander McPherson, University of California-Irvine, Irvine, CA	0, 1
Cyt R Repressor		Alexander McPherson, University of California-Irvine, Irvine, CA	0, 1

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4 α -hydroxy-tetrahydropterin dehydratase/DcoH (rat liver)	Protein that performs two functions. It performs as an enzyme that catalyzes the removal of oxygen and hydrogen through dehydration. It also performs as a transcriptional coactivator.	Joseph Ng, University of Alabama-Huntsville, Huntsville, AL	0, 1
Glucose Isomerase	A bacterial enzyme produced during the fermentation process. It is used in brewing, baking and food processing industry to convert saccharides.	Alexander McPherson, University of California-Irvine, Irvine, CA Russell Judge, Marshall Space Flight Center, Huntsville, AL	0, 1
Glutathione S-Transferase (<i>Anopheles gambiae</i> mosquito)	A group of enzymes capable of multiple reactions in different cellular environments.	Joseph Ng, University of Alabama-Huntsville, Huntsville, AL	0, 1
Green Fluorescent Protein (<i>Aequoria Victoria</i>)	Protein that is found the jellyfish, <i>Aequoria Victoria</i> , is used to generate the green light produced by the jellyfish.	Marc Pusey, Marshall Space Flight Center, Huntsville, AL	0
GTP Binding Protein	<i>Guanosine triphosphate binding protein</i> (GTP) is a class of biochemical proteins and is used to relay intercellular processes.	Joseph Ng, University of Alabama-Huntsville, Huntsville, AL	0
Lactalbumin	Protein component of all mammalian milk.	Alexander McPherson, University of California-Irvine, Irvine, CA	0, 1

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Pea Lectin	Lectin is a protein that interacts with carbohydrates in order to regulate cell adhesion, glycoprotein synthesis and controls protein levels in the blood. This protein also can detect carbohydrates that are found in pathogens.	Alexander McPherson, University of California-Irvine, Irvine, CA Joseph Ng, University of Alabama-Huntsville, Huntsville, AL	0, 2, 4
Lysozyme	A defensive enzyme that weakens bacteria cell walls, leading to their destruction.	Alexander McPherson, University of California-Irvine, Irvine, CA	0,1, 2, 4
Monoclonal antibody	This protein is used to treat rheumatoid arthritis.	Alexander McPherson, University of California-Irvine, Irvine, CA	0, 1
Myoglobin	This protein is the oxygen-carrying molecule for muscles.	Alexander McPherson, University of California-Irvine, Irvine, CA	0
Osteopontin (human and rat)	Composed of carbohydrates and proteins, this protein is over expressed in a variety of cancers.	Joseph Ng, University of Alabama-Huntsville, Huntsville, AL	0, 1
Phenyl preferring sulfo-transferase (human P-PST1)		Joseph Ng, University of Alabama-Huntsville, Huntsville, AL	0
Satellite Tobacco Mosaic Virus	A virus that infects plants that causes patterns of discoloration on the leaves.	Alexander McPherson, University of California-Irvine, Irvine, CA	0, 2, 4

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Thaumatococcus daniellii (Thaumatococcus daniellii)	Thaumatococcus is a sweet protein from the African serendipity berry. It is used in the food processing industry as a sugar substitute.	Alexander McPherson, University of California-Irvine, Irvine, CA Craig Kundrot, Marshall Space Flight Center, Huntsville, AL Joseph Ng, University of Alabama- Huntsville, Huntsville, AL	0, 1, 2, 4
Trypsin (porcine)	An enzyme that is used to break down proteins into peptides.	Alexander McPherson, University of California-Irvine, Irvine, CA	0,1, 4
Brome Mosaic Virus	BMV infects monocot plants and is produced in infected barley	Alexander McPherson, University of California-Irvine, Irvine, CA	1, 2, 4
Goat Hemoglobin	Hemoglobin is responsible for transporting oxygen in the blood.	Alexander McPherson, University of California-Irvine, Irvine, CA	1
Human Bone Alkaline Phosphatase	An enzyme crucial in bone formation and mineralization.	Laurel Karr, Marshall Space Flight Center, Huntsville, AL	1
Lactate Dehydrogenase	An enzyme responsible for converting pyruvic acid to lactic acid.	Alexander McPherson, University of California-Irvine, Irvine, CA	2

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Pyruvate Dehydrogenase	An enzyme that is responsible for catalyzing pyruvate to acetyl coenzyme A which will be used in the Krebs Cycle.	Ewa Ciszak, Marshall Space Flight Center, Huntsville, AL	2
Ribonuclease A	An enzyme that cleaves (breaks) RNA into smaller pieces.	Alexander McPherson, University of California-Irvine, Irvine, CA	2
PEG 4000	Polyethylene glycol (PEG) is a protein that is used in numerous commercial products, medicines and cosmetics.	Ewa Ciszak, Marshall Space Flight Center, Huntsville, AL	2
Ammonium Sulfate	A salt that is used in concentrating proteins in biochemical reactions.	Ewa Ciszak, Marshall Space Flight Center, Huntsville, AL	2
Gamma-E-crystallin		Dean Myles, European Molecular Biology Laboratory, Grenoble, France	4
c-phycocyanin	The blue pigment found in blue-green algae that has fluorescent properties.	Naomi Chayen, Imperial College, London, UK	4
Cytochrome P458	An enzyme that transport electrons within cells.	Dean Myles, European Molecular Biology Laboratory, Grenoble, France	4